

Chapter 6: Pure Monopoly

Instructions: These are the notes for Chapter 6. Make sure you review the material presented here and read the corresponding chapters on the textbook: **Chapter 14 on Mankiw.**

Characteristics

- Single seller: the sole producer.
- No substitutes: unique product.
- Price maker: control over market price.
- Blocked entry: strong barriers to entry, block potential competition.
- Examples: natural gas, electric, water companies.
 - "Near" monopolies would be companies such as Intel, Toyota, Microsoft..
 - Professional sports teams can also be considered monopolistic.

Barriers to Entry

- How does the monopoly enforce barriers to entry?
- **Barrier to entry.** A barrier that keeps firms from entering an industry.
- There are three main causes for barriers: economies of scale, legal barriers, and ownership of essential sources.
- **Economies of scale.** A very large firm with a large market share is the most efficient, new firms cannot afford to start up in industries with extensive economies of scale due to high investments required. E.g. Intel.
- **Legal barriers.** Patents and licenses. Patents grant the inventor the exclusive right to produce or license a product for at least 20 years. E.g. pharmaceuticals.
 - Government granting licenses allowing only one or a few firms to offer the service is also a legal barrier. E.g. Radio and TV stations and taxi companies.
- **Ownership of essential resources.** Owning or controlling a resource essential to the production process. E.g. De Beers of South Africa controls most of the world's diamond supply.

Monopoly Demand

- The pure monopolist is the sole seller.
- The monopolist faces a downward-sloping demand curve instead of a horizontal demand curve!
 - Recall in a perfectly competitive market, if a firm wanted to increase its price, it loses all its customers: horizontal demand curve. However, when the monopolist increases its price, it only loses the customers who thinks the initial price was OK, but the new price too high, i.e. there are still customers who are willing to buy at the new price: downward-sloping demand curve.
- In a perfectly competitive market: $MR=P$: horizontal demand curve. For the monopolist, $MR < P$.
 - To see this, $TR=P \times Q$. When a competitive firm produces one more unit, it gets P (fixed). When monopolist produces one more unit, P falls because of downward-sloped demand curve, hence it gets less than P .

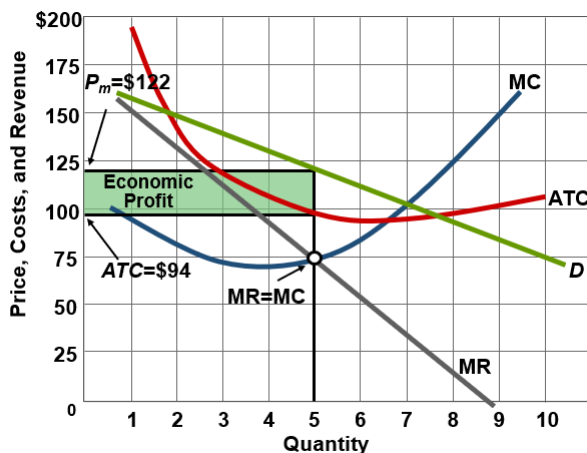
Profit Maximization

Revenue and Cost Data of a Pure Monopolist							
Revenue Data				Cost Data			
(1) Quantity of Output	(2) Price (Average Revenue)	(3) Total Revenue (1) X (2)	(4) Marginal Revenue	(5) Average Total Cost	(6) Total Cost (1) X (5)	(7) Marginal Cost	(8) Profit (+) or Loss (-)
0	\$ 172	\$0			\$ 100		\$ -100
1	162			\$ 190.00			
2	152			135.00			
3	142			113.33			
4	132			100.00			
5	122			94.00			
6	112			91.67			
7	102			91.43			
8	92			93.75			
9	82			97.78			
10	72			103.00			

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0	\$ 172	\$0			\$ 100		\$ -100
1	162	162	\$ 162	\$ 190.00	190	\$ 90	-28
2	152	304	142	135.00	270	80	+34
3	142	426	122	113.33	340	70	+86
4	132	528	102	100.00	400	60	+128
5	122	610	82	94.00	470	70	+140
6	112	672	62	91.67	550	80	+122
7	102	714	42	91.43	640	90	+74
8	92	736	22	93.75	750	110	-14
9	82	738	2	97.78	880	130	-142
10	72	720	-18	103.00	1030	150	-310

- Monopolist sets $MR=MC$ to determine the optimal (profit maximizing) price and output!
 - General note: if there is no quantity that exactly gives $MR=MC$, pick the quantity that last gives $MR>MC$, i.e. the quantity just before it becomes $MR<MC$.

Profit Maximization (visually)



- Profit, $\pi = TR - TC$

$$= P \times Q - ATC \times Q$$

$$= (P - ATC) \times Q$$

$$= (122 - 94) \times 9$$

$$= 140.$$
- $MR=MC$ determines eq'm Q. Demand curve determines P.
- $P > MC$ hence monopoly is not efficient! They sell for a price higher than they should ($P=MC$ is the efficient price). Q is also smaller than what it should be.
- Notice if demand curve shifts right, P goes up. Monopolist's price is bounded by demand.

Monopoly and Antitrust Policy

- Put antitrust laws: Sherman Antitrust Act, 1890.
 - Bans certain "monopolistic" practices such as price fixing, bid rigging, or tying to protect market competition.
 - Examples: Microsoft tying Internet Explorer with Windows, Kodak tying films, forced breakup of AT&T into AT&T, Verizon and Qwest.
- Regulate monopolies: put a price cap!
- Let the government run the monopoly.
 - Common in Europe with utility companies such as telephone, water, electric companies or USPS in the US.
- Do nothing (and hope for the best).



Question

<u>Price</u>	<u>Quantity</u>	<u>Total Cost</u>
\$22	0	\$20
20	1	24
18	2	27
16	3	33
14	4	40
12	5	49
10	6	59

- The data above relate to a pure monopolist and the product it produces. What is the profit-maximizing output and price for this monopolist?
 - a. $P = \$12, Q = 5$
 - b. $P = \$14, Q = 4$
 - c. $P = \$16, Q = 3$
 - d. $P = \$18, Q = 2$